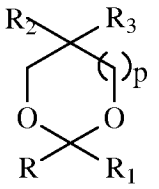
## AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application.

Claims 1-123. (Canceled)

124. (Currently Amended) A method for enhancing chemical digestion of a biomolecule comprising contacting the biomolecule with (i) a protease, CNBr or hydroxylamine and (ii) a surfactant represented by formula I:



(I)

in which

p is 0, 1 or 2;

R is alkyl;

$R_1$ and $R_2$ are each, independently, hydrogen or methyl; and

$R_3$ is selected from $-OSO_3^-$, $-R_4OSO_3^-$, $-R_4OR_5SO_3^-$, and $-OR_5SO_3^-$,

wherein $R_4$ and $R_5$ are each, independently, lower alkyl; and

wherein the biomolecule is selected from the group consisting of a protein and a peptide, and

wherein the activity of said protease, CNBr or hydroxylamine is maintained or increased upon contact with the surfactant;

thereby enhancing the chemical digestion of said biomolecule;

wherein the surfactant is degraded after the chemical digestion.

125. (Previously Presented) The method of claim 124, wherein the chemical digestion is enhanced by accelerating the rate of chemical digestion of said biomolecule, increasing the yield of chemical digestion of said biomolecule or increasing the completeness of chemical digestion of said biomolecule or a combination thereof.

126. (Previously Presented) The method of claim 124, wherein the activity of said protease, CNBr or hydroxylamine is maintained upon contact with the surfactant.

127. (Previously Presented) The method of claim 124, wherein the activity of said protease, CNBr or hydroxylamine is increased upon contact with the surfactant.

128. (Previously Presented) The method of claim 126 or 127, wherein the activity of said protease, CNBr or hydroxylamine is maintained or increased relative to the activity of said protease, CNBr or hydroxylamine in the presence of a surfactant other than the surfactant of formula I.

129. (Previously Presented) The method of claim 128, wherein the surfactant other than the surfactant of formula I is SDS.

130. (Previously Presented) The method of claim 124, further comprising the step of analyzing the biomolecule following chemical digestion thereof.

131. (Previously Presented) The method of claim 124, wherein the biomolecule is contained in a biological sample.

132. (Previously Presented) The method of claim 131, wherein the biological sample is selected from the group consisting of inclusion bodies, biological fluids, biological tissues, biological matrices, embedded tissue samples, and cell culture supernatants.

133. (Previously Presented) The method of claim 124, wherein the biomolecule is selected from the group consisting of a lipophilic protein, a receptor, a proteolytic protein, and a membrane-bound protein.

134. (Previously Presented) The method of claim 130, wherein the step of analyzing the biomolecule comprises analysis selected from the group consisting of solid phase extraction, solid phase micro extraction, electrophoresis, mass spectrometry, liquid chromatography, liquid-liquid extraction, membrane extraction, soxhlet extraction, precipitation, clarification, electrochemical detection, staining, elemental analysis, Edmund degradation, nuclear magnetic resonance, infrared analysis, flow injection analysis, capillary electrochromatography, ultraviolet detection, and combinations thereof.

135. (Previously Presented) The method of claim 134, wherein the mass spectrometry is surface desorption ionization mass spectrometry.

136. (Previously Presented) The method of claim 130, wherein the surfactant is degraded prior to analysis.

137. (Previously Presented) The method of claim 124, wherein the protease is immobilized.

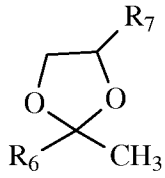
138. (Previously Presented) The method of claim 124, wherein the protease is selected from the group consisting Trypsin, Chymotrypsin, Lys-C, V8 protease, AspN, Arg-C, Clostripain, Pepsin, and Papain.

139. (Previously Presented) The method of claim 124, wherein the biomolecule is selected from bovine serum albumin, lysozyme, ovalbumine, myoglobin, ubiquitin, and bacteriorhodopsin.

140. (Canceled)

141. (Previously Presented) The method of claim 140, wherein the surfactant is degraded by contact with an acidic solution.

142. (Previously Presented) The method of claim 124, wherein the surfactant is represented by formula II:




(II)

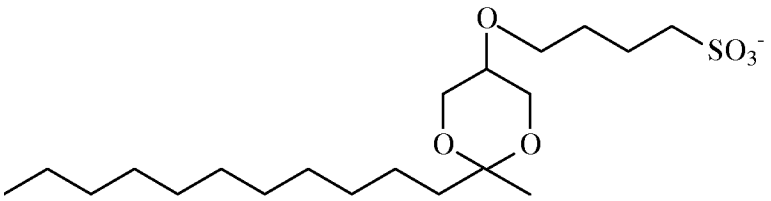
in which

$R_6$ is alkyl;

$R_7$ is selected from $-OSO_3^-$, $-R_4OSO_3^-$, $-R_4OR_5SO_3^-$, and $-OR_5SO_3^-$,

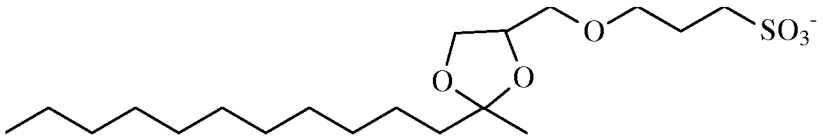
wherein $R_4$ and $R_5$ are each, independently, lower alkyl.

143. (Previously Presented) The method of claim 124 wherein the surfactant has the following chemical structure:



.

144. (Previously Presented) The method of claim 124 wherein the surfactant has the following chemical structure:



145. (Previously Presented) The method of claim 124 wherein increasing the activity of a protease, CNBr, or hydroxylamine facilitates on-line automation, separation, mass spectrometric analysis, or a combination thereof.

146. (Previously Presented) The method of claim 124 wherein increasing the activity of a protease, CNBr, or hydroxylamine, is performed under microscale conditions.

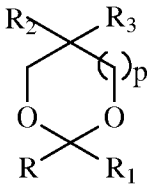
147. (Previously Presented) The method of claim 124 wherein the digestion occurs in an electrophoretic gel.

148. (Previously Presented) The method of claim 124 wherein the digestion occurs in the presence one or more surfactants that are different from the surfactant in Formula I.

149. (Previously Presented) The method of claim 148 wherein the digestion occurs in the presence of SDS.

150. (Previously Presented) The method of claim 124 wherein the digestion occurs in the absence of SDS.

151. (Withdrawn) A kit for increasing the activity of a protease, CNBr, or hydroxylamine for the chemical digestion of a biomolecule comprising:
a surfactant represented by formula I:




(I)

in which
p is 0, 1or 2;
R is alkyl;
$R_1$ and $R_2$ are each, independently, hydrogen or methyl; and
$R_3$ is selected from $-OSO_3^-$, $-R_4OSO_3^-$, $-R_4OR_5SO_3^-$, and $-OR_5SO_3^-$,
wherein $R_4$ and $R_5$ are each, independently, lower alkyl; and instructions for use.